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Farmers' Perception towards Organic farming for Sustainable Livelihood in Coimbatore District

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Abstract **– The objective of the study are to examine the perception of the farmers towards organic farming, to find out the cultivation practices, cost and returns for their efforts in organic farming. The present study was conducted in Coimbatore district which is located in Tamilnadu, India. Nearly 6 taluks and 250 villages are in Coimbatore district; out of these a convenient and purposive sampling technique was used to select 100 farmers who cultivate organic food products at least in one acre of land with a minimum of 2 years of continuous experience in cultivation has been considered for the study. Tools such as Percentage analysis and Chi-Square Test have been applied. The present study could help conventional farmers, traders and non-governmental organizations' to adapt organic farming for their livelihood. Besides, the study would also help the government and policy makers in promotion of organic farming.**

Keywords **– Organic, Farming, Farmer, Perception, Adaptation.**

I. INTRODUCTION

The consumption pattern of food have been changed a lot due to the health and environmental issues, in all over the world. People started to concentrate much on their health benefits for long living and for that attempt they have started to adapt organic food as their main meal rather than depending on inorganic products which are tremendously available in the markets. According to the International Federation of Organic Agriculture Movements - IFOAM, organic agriculture is a production system that sustains the health of soils, people and ecosystems, using organic pesticides and avoiding, for instance, the use of antibiotics and growth hormones. Organic cultivation is attracting farmers the world over due to its various advantages over modern agricultural practices. Essentially it is a farming system which supports and strengthens biological processes without recourse to inorganic remedies such as chemicals or genetically modified organisms (Reddy, 2010).

Asia is a major exporter of organic products (Source: FiBL-IFOAM-SOEL 2002-2017) and India stands first with 585000 organic food producers among the top ten countries (FiBL survey 2017, www.fibl.org) India is bestowed with different agro climatic zones which makes it possible to produce varieties of organic products. The area under organic farming in India has been increasing steadily since 2000 after launching National Programme for Organic Production (Jagannathan et al, 2012). The changing consumption of the people and due to the barriers faced in traditional farming, farmers are now moving towards organic farming which acts as a livelihood measure for their sustainable livelihood.

Statement of Problem

The scenario of agriculture has changed dramatically (Anand et.al 2010). With the increase in population our compulsion would be not only to stabilize agricultural production but to increase it further in sustainable manner. Use of chemicals throughout the globe for years has not only increased the productivity of crops but also has made it difficult for the upcoming generations to fulfill their need. The scientists have realized that the 'Green Revolution' with high input use has reached a plateau and is now sustained with diminishing return of

falling dividends. Thus, a natural balance needs to be maintained at all cost for existence of life and property. Sustainable agriculture is the only way through which we can fulfill the need of present without comprising on the ability of the future generations to meet their need. Hence an attempt has been made to study the farmers' perception and adaptation towards Organic farming for Sustainable Livelihood in Coimbatore District.

Moreover in Budget 2018, the government has announced the promotion of Organic farming by Farmer Producer Organisations (FPOs) and Village Producers' Organisations (VPOs) in large clusters, preferably of 1,000 hectares each. Women's Self Help Groups (SHGs) has also been encouraged to take up organic agriculture in clusters under the National Rural Livelihood Programme. "Paramparagat Krishi Vikas Yojana" is an elaborated component of Soil Health Management (SHM) of major project National Mission of Sustainable Agriculture (NMSA). Under PKVY, Organic farming is promoted through adoption of organic village by cluster approach and PGS certification. This will act as a promotional tool for other conventional farmers also to take up organic farming and reap the benefits.

Objective

- The main objective of the study intends to examine the returns reaped by the farmers' for their efforts carried out in cultivation of crops based on organic farming.

II. Review of Literature

International Reviews:

Organic agriculture is developing rapidly and at least countries produce organic food commercially (Reddy, 2010). Adoption of organic farming is assumed to be driven by a variety of different reasons such as economic and socio-economic, structural and institutional factors (Defrancesco et al., 2008; Burton et al, 2003). However, information gathering (Genius et al, 2006) and attitudes of the farmer (Willock et al, 1999, Hattam, 2006, Rehman et al, 2007) are also important in that decision. Farmers should be motivated through credit facilities and discouragement of inorganic farming in order to ensure sustainable production of food, since the farmers have a favourable perception towards organic farming (Oyesoal et al., 2011). As a result, there is enormous potential in practicing organic farming in coconut growing lands, because organic agriculture is productive and sustainable (Reganold et al., 1993; Mader et al., 2002).

National Reviews:

Increasing environmental awareness in the general population in modern times has transformed the originally supply-driven organic movement to a demand- driven one (Anish et al, 2016). A strategy for knowledge development in organic farming for the farmers/ producers, consumers and related government departments, agricultural research institutions and such regulatory bodies would help in spreading of organic farming practices. (Jagannathan et al, 2012). Hence Sustainable agriculture is necessary to attain the goal of sustainable development (Dr.Suresh et.al, 2015).

Limitations of the Study:

- The study depends upon primary data and the data is valuated based on the response by the respondents.
- The area of the study limited to Coimbatore district only.

III. RESEARCH METHODOLOGY

- Area of the Study: The research study was done only in Coimbatore District.
- Nature and Source of Data: The study is based on Primary data collected through Interview Schedule method and the data has been collected from farmers who cultivate organic food products.
- Sampling technique: Convenient and purposive sampling technique was used
- Sample Size: 100 farmers who cultivate organic food products at least in one acre of land with a minimum of 2 years of continuous experience in cultivation will be considered for the study.
- Statistical Tools: Percentage analysis and Chi-square test.

Opinion towards the Returns they have reaped by Cultivating the Crops through Organic Farming in their Land (Chi-Square Analysis):

The opinion of the farmers towards the returns they have reaped by cultivating the crops through organic farming in their land was measured through 5 pont likert scaling and it was compared with the demographic variables to test their relationship at 5% level of significance.

Gender of the Farmers and Opinion towards the returns they have Reaped by Cultivating the Crops through Organic Farming in their Land

The following table 1.1 highlights the relationship between the gender of the farmers and opinion towards the returns they have reaped by cultivating the crops through organic farming in their land.

Table 1.1. Cross tabulation - Gender of the farmers and Opinion towards the returns they have reaped by cultivating the crops through organic farming in their land.

Gender		Very Low Return	Low Return	Moderate Return	High Return	Very High Return	Total
Male	**No**	6	17	21	11	23	78
	%	7.7%	21.8%	26.9%	14.1%	29.5%	100.0%
Female	**No**	1	7	8	2	4	22
	%	4.5%	31.8%	36.4%	9.1%	18.2%	100.0%
Total	**No**	7	24	29	13	27	100
	%	7.0%	24.0%	29.0%	13.0%	27.0%	100.0%

From the table 1.1 it clear that Out of 78 male farmers, highest of 29.5% of the farmers have reaped very high return by cultivating the crops through organic farming in their land and out of 22 female farmers, highest of 36.4% of the farmers have reaped moderate return by cultivating the crops through organic farming in their land.

Hypothesis:

"There exists no significant relationship between the gender of the farmers and opinion towards the returns they have reaped by cultivating the crops through organic farming in their land."

Table 1.1 (a). Chi-square test- Gender of the farmers and Opinion towards the returns they have reaped by cultivating the crops through organic farming in their land.

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.632	4	.621

In table 1.1 (a) the chi-square result at 5% level of significance states that with the significant value of .621, there exists no significant relationship between the gender of the farmers and their opinion towards the returns they have reaped by cultivating the crops through organic farming in their land. Hence the hypothesis is accepted.

Age of the Farmers and Opinion towards the returns they have reaped by Cultivating the Crops through Organic Farming in their Land

The following table 1.2 highlights the relationship between the age of the farmers and opinion towards the returns they have reaped by cultivating the crops through organic farming in their land.

Table 1.2. Cross tabulation – Age of the farmers and opinion towards the returns they have reaped by cultivating the crops through organic farming in their land.

		Very Low Return	Low Return	Moderate Return	High Return	Very High Return	Total
Below 30 years	**No**	2	3	1	1	1	8
	%	25.0%	37.5%	12.5%	12.5%	12.5%	100.0%
30-40 years	**No**	3	13	7	8	12	43
	%	7.0%	30.2%	16.3%	18.6%	27.9%	100.0%
40-50 years	**No**	1	5	15	3	10	34
	%	2.9%	14.7%	44.1%	8.8%	29.4%	100.0%
Above 50 years	**No**	1	3	6	1	4	15
	%	6.7%	20.0%	40.0%	6.7%	26.7%	100.0%
Total	**No**	7	24	29	13	27	100
	%	7.0%	24.0%	29.0%	13.0%	27.0%	100.0%

From the table it clear that out of 8 farmers who are in the age group of below 30 years, highest of 37.5% of the farmers have reaped low return by cultivating the crops through organic farming in their land: Out of 43 farmers who are in the age group of 30 to 40 years, highest of 30.2% of the farmers have reaped low return by cultivating the crops through organic farming in their land; out of 34 farmers who are in the age group of 40 to 50 years, highest of 44.1% of the farmers have reaped moderate return by cultivating the crops through organic farming in their land; out of 15 farmers who are in the age group of above 50 years, highest of 40.0% of the farmers have reaped moderate return by cultivating the crops through organic farming in their land.

Hypothesis:

"There exists no significant relationship between Age of the farmers and opinion towards the returns they have reaped by cultivating the crops through organic farming in their land."

Table 1.2 (a). Chi-square test-Age of the farmers and opinion towards the returns they have reaped by cultivating the crops through organic farming in their land.

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	16.258	12	.180

In Table 1.2 (a) the chi-square result at 5% level of significance states that with the significant value of .180, there exists no significant relationship between the age of the farmers and opinion towards the returns they have reaped by cultivating the crops through organic farming in their land. Hence the hypothesis is accepted.

Educational Qualification and Opinion towards the Returns they have Reaped by Cultivating the Cro ps through Organic Farming in their Land

The following table 1.3 highlights the relationship between the Educational qualification of the farmers and opinion towards the returns they have reaped by cultivating the crops through organic farming in their land.

Table 1.3. Cross tabulation – Educational qualification of the farmers and opinion towards the returns they have reaped by cultivating the crops through organic farming in their land.

Educational Qualification		Very Low Return	Low Return	Moderate Return	High Return	Very High Return	Total
Below Matric	No	5	12	16	4	18	55
	%	9.1%	21.8%	29.1%	7.3%	32.7%	100.0%
Matric	No	0	8	8	8	8	32
	%	.0%	25.0%	25.0%	25.0%	25.0%	100.0%
Graduate	No	2	4	5	1	0	12
	%	16.7%	33.3%	41.7%	8.3%	.0%	100.0%
Post graduate	No	0	0	0	0	1	1
	%	.0%	.0%	.0%	.0%	100.0%	100.0%
Total	No	7	24	29	13	27	100
	%	7.0%	24.0%	29.0%	13.0%	27.0%	100.0%

From the table it clear that Out of 55 farmers who are educated below matric level, highest of 32.7% of the farmers have reaped very high return by cultivating the crops through organic farming in their land: Out of 32 farmers who are educated upto matric, highest of 25.0% each of the farmers have reaped low return, moderate return, high return and very high return by cultivating the crops through organic farming in their land; Out of 12 farmers who are graduates, highest of 41.7% of the farmers have reaped moderate return by cultivating the crops through organic farming in their land; Out of 1 farmer who are post graduate, highest of 100.0% of the farmers have reaped very high return by cultivating the crops through organic farming in their land.

Hypothesis:

"There exists no significant relationship between Educational qualification of the farmers and opinion towards the returns they have reaped by cultivating the crops through organic farming in their land."

Table 1.3 (a). Chi-square test- Educational qualification of the farmers and opinion towards the returns they have reaped by cultivating the crops through organic farming in their land.

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	17.377	12	.136

In Table 1.3(a) the chi-square result at 5% level of significance states that with the significant value of .136, there exists no significant relationship between the educational qualification of the farmers and opinion towards the returns they have reaped by cultivating the crops through organic farming in their land. Hence the hypothesis is accepted.

Occupation of the Farmers and Opinion towards the Returns they have Reaped by Cultivating the Crops through Organic Farming in their Land

The following table 1.4 highlights the relationship between occupation of the farmers and opinion towards the returns they have reaped by cultivating the crops through organic farming in their land.

Table 1.4. Cross tabulation –Occupation of the farmers and opinion towards the returns they have reaped by cultivating the crops through organic farming in their land.

Occupation		Very Low Return	Low Return	Moderate Return	High Return	Very High Return	Total
Main	No	5	24	20	11	21	81
	%	6.2%	29.6%	24.7%	13.6%	25.9%	100.0%
Secondary	No	2	0	9	2	6	19
	%	10.5%	.0%	47.4%	10.5%	31.6%	100.0%
Total	No	7	24	29	13	27	100
	%	7.0%	24.0%	29.0%	13.0%	27.0%	100.0%

From the table 1.4 it clear that out of 81 farmers who consider organic farming as main occupation, highest of 29.6% of the farmers have reaped low return by cultivating the crops through organic farming in their land: Out of 19 farmers who consider organic farming as secondary occupation, highest of 47.4% of the farmers have reaped moderate return by cultivating the crops through organic farming in their land.

Hypothesis:

"There exists no significant relationship between Occupation of the farmers and opinion towards the returns they have reaped by cultivating the crops through organic farming in their land."

Table 1.4 (a). Chi-square test- Occupation of the farmers and opinion towards the returns they have reaped by cultivating the crops through organic farming in their land.

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.068	4	.059

In table 1.4 (a) the chi-square result at 5% level of significance states that with the significant value of .059, there exists no significant relationship between Occupation of the farmers and opinion towards the returns they have reaped by cultivating the crops through organic farming in their land. Hence the hypothesis is accepted.

Size of Land Holding Under Operation and Opinion towards the Returns they have Reaped by Cultiva ting the Crops through Organic Farming in their Land

The following table 1.5 highlights the relationship between the size of land holding under operation of the farmers and opinion towards the returns they have reaped by cultivating the crops through organic farming in their land.

Table 1.5. Cross tabulation – Size of land holding under operation of the farmers and opinion towards the returns they have reaped by cultivating the crops through organic farming in their land.

Size		Very Low Return	Low Return	Moderate Return	High Return	Very High Return	Total
Below 1 acre	No	0	0	5	0	3	8
	%	.0%	.0%	62.5%	.0%	37.5%	100.0%
1-2.5 acres	No	0	1	7	8	13	29
	%	.0%	3.4%	24.1%	27.6%	44.8%	100.0%
2.5-5 acres	No	4	19	13	4	7	47
	%	8.5%	40.4%	27.7%	8.5%	14.9%	100.0%
5-10 acres	No	3	4	4	0	2	13
	%	23.1%	30.8%	30.8%	.0%	15.4%	100.0%
Above 10 acres	No	0	0	0	1	2	3
	%	.0%	.0%	.0%	33.3%	66.7%	100.0%
Total	No	7	24	29	13	27	100
	%	7.0%	24.0%	29.0%	13.0%	27.0%	100.0%

From the table 1.5 it clear that Out of 8 farmers whose size of land holding under operation of the farmers is below 1 acre, highest of 62.5% of the farmers have reaped moderate return by cultivating the crops through organic farming in their land: Out of 29 farmers whose size of land holding under operation of the farmers is 1 to 2.5 acres, highest of 44.8% of the farmers have reaped very high return by cultivating the crops through organic farming in their land; Out of 47 farmers whose size of land holding under operation of the farmers is 2.5 to 5 acres, highest of 40.4% of the farmers have reaped low return by cultivating the crops through organic farming in their land; Out of 13 farmers whose size of land holding under operation of the farmers is 5 to10 acres, highest of 30.8% each of the farmers have reaped low return and moderate return by cultivating the crops through organic farming in their land; Out of 3 farmers whose size of land holding under operation of the farmers is above 10 acres, highest of 66.7% of the farmers have reaped very high return by cultivating the crops through organic farming in their land.

Hypothesis:

"There exists significant relationship between size of land holding under operation of the farmers and opinion towards the returns they have reaped by cultivating the crops through organic farming in their land."

TABLE 1.5 (a). Chi-Square Tests- Size of land holding under operation of the farmers and opinion towards the returns they have reaped by cultivating the crops through organic farming in their land.

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	43.123	16	.000

In table 1.5 (a) the chi-square result at 5% level of significance states that with the significant value of .000, there exists significant relationship between the size of land holding under operation of the farmers and opinion towards the returns they have reaped by cultivating the crops through organic farming in their land. Hence the hypothesis is rejected.

Annual Household Income (Gross in Rs.) of the Farmers and Opinion towards the returns they have Reaped by Cultivating the Crops through Organic Farming in their Land

The following table 1.6 highlights the relationship between the Annual household income (Gross in Rs.) of the farmers and opinion towards the returns they have reaped by cultivating the crops through organic farming in their land.

Table 1.6. Cross tabulation–Annual household income (Gross in Rs.) of the farmers and opinion towards the returns they have reaped by cultivating the crops through organic farming in their land.

Income		Very Low Return	Low Return	Moderate Return	High Return	Very High Return	Total
Below 1.5 lakh	No	0	1	1	1	1	4
	%	.0%	25.0%	25.0%	25.0%	25.0%	100.0%
1.5-3 lakh	No	2	4	2	8	20	36
	%	5.6%	11.1%	5.6%	22.2%	55.6%	100.0%
3-5 lakh	No	1	12	20	4	4	41
	%	2.4%	29.3%	48.8%	9.8%	9.8%	100.0%
Above 5 lakh	No	4	7	6	0	2	19
	%	21.1%	36.8%	31.6%	.0%	10.5%	100.0%
Total	No	7	24	29	13	27	100
	%	7.0%	24.0%	29.0%	13.0%	27.0%	100.0%

From the table it clear that out of 4 farmers whose annual household income (Gross in Rs.) is below 1.5 lakh, highest of 25.0% each of the farmers have reaped low return, moderate return, high return and very high return by cultivating the crops through organic farming in their land: Out of 36 farmers whose annual household income (Gross in Rs.) ranges between 1.5 to 3 lakh, highest of 55.6% of the farmers have reaped very high return by cultivating the crops through organic farming in their land; Out of 41 farmers whose annual household income (Gross in Rs.) ranges between 3 to 5 lakh, highest of 48.8% of the farmers have reaped moderate return by cultivating the crops through organic farming in their land; Out of 19 farmers whose annual household income (Gross in Rs.) is above 5 lakh, highest of 36.8% of the farmers have reaped low return by cultivating the crops through organic farming in their land.

Hypothesis:

"There exists significant relationship between Annual household income (Gross in Rs.) of the farmers and opinion towards the returns they have reaped by cultivating the crops through organic farming in their land."

Table 1.6 (a). Chi-square test- Annual household income (Gross in Rs.) of the farmers and opinion towards the returns they have reaped by cultivating the crops through organic farming in their land.

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	46.563	12	.000

In table 1.6(a) the chi-square result at 5% level of significance states that with the significant value of .000, there exists significant relationship between the annual household income (Gross in Rs.) of the farmers and opinion towards the returns they have reaped by cultivating the crops through organic farming in their land. Hence the hypothesis is rejected.

IV. CONCLUSION

The demographic variables of the farmers' plays a dominant role in assessing the returns of the cultivation of crops which was done based on organic farming. Many farmers turn towards organic cultivation based on health and hygiene of the society. Though it constitutes as a part of contribution towards corporate health, the main component will be to acquire higher return. This has lead many traditional farmers to move towards organic farming though yield will be low during the initial returns. Hence this study would prove beneficial for the farmers to move towards organic farming and to contribute to society as well.

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